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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,480	04/23/2001	Del C. Schroeder	705579US1	5782

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EXAMINER

SLITERIS, JOSELYNN Y

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,480

Applicant(s)

SCHROEDER ET AL.

Examiner

Joselynn Y. Sliteris

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 8-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 8-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 12 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Acknowledgement

1. Examiner acknowledges receipt of applicant's Amendment (filed 3/12/03).

Election/Restrictions

2. Claims 13-27 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 4.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Finn et al. (U.S. Patent 4,540,197).
5. Regarding claim 1, Finn discloses a suspension system as claimed in the present invention comprising:

longitudinally extending vehicle frame members; and

a composite spring 48 with two ends, said composite spring having a sinusoidal neutral axis transversely spanning said vehicle frame members between the parallel wheel assemblies (Fig. 7).

Art Unit: 3616

6. With respect to claim 2, Finn discloses the vehicle suspension system as claimed in the present invention, further comprising means for pivotally supporting 72 said composite spring between said vehicle frame members.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusaka et al. (U.S. Patent 5,251,930) in view of Finn et al. (U.S. Patent 4,540,197).

9. Regarding claim 1, Kusaka discloses a suspension system as claimed in the present invention comprising:

longitudinally extending vehicle frame members; and

a composite spring 5 with two ends, said composite spring having a neutral axis transversely spanning said vehicle frame members between the parallel wheel assemblies (Fig. 7).

But Kusaka does not disclose the spring having a sinusoidal neutral axis. Finn discloses that it is known in the art to provide a composite spring 48 having a sinusoidal neutral axis (Fig. 7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the composite spring of Kusaka with the

Art Unit: 3616

sinusoidal neutral axis of Finn, in order to readily adjust the roll rate of the suspension without affecting ride rate.

10. With respect to claim 2, Kusaka discloses the vehicle suspension system as claimed in the present invention further comprising means for pivotally supporting 6 said composite spring between said vehicle frame members.

11. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusaka et al. (U.S. Patent 5,251,930) in view of Finn et al. (U.S. Patent 4,540,197) as applied to claim 1 above, and further in view of Lawson (U.S. Patent 6,361,032).

12. Regarding claims 8-11, Kusaka and Finn disclose the claimed invention except for the carbon fiber. Lawson discloses that it is known in the art to provide a composite spring 10, 12 comprising carbon fiber 50 spanning the length of the spring at and below the neutral axis; and glass fiber 52 spanning the length of the spring and surrounding the carbon fiber (Figs. 2, 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the composite spring of Kusaka and Finn with the carbon fiber and glass fiber of Lawson, in order to improve the spring's stiffness while maintaining flexibility.

13. Regarding claim 12, Kusaka, Finn, and Lawson disclose the claimed invention except for each of the edges being formed of a 5/16" radius. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form each of the edges of a 5/16" radius, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

14. Applicant's arguments filed March 12, 2003 have been fully considered but they are not persuasive.

15. Applicant argues that "fig. 5 of Finn shows a spring 48 having a linear neutral, or free state, axis. It is not until the spring 48 is loaded in fig. 7 that it assumes a sinusoidal axis." The examiner maintains that the rejection is proper. Applicant does not claim that the spring has a sinusoidal neutral axis in a "free state". Finn clearly shows the spring to have a sinusoidal neutral axis as shown in figs. 6-8, although such configuration is in the loaded or active state. Likewise for Kusaka et al.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3616

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselynn Y. Sliteris whose telephone number is 703-308-8225. The examiner can normally be reached on Mon-Fri 8:30 am - 6:00 pm; alternating Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 703-308-2089. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-2571 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1134.

JYS *OK*
5/19/03

Paul N. Dickson 5/19/03
PAUL N. DICKSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600